

when a pressure of 28.88 was reported from Edmonton. In twenty-four hours the lowest pressure was in Manitoba. This storm cannot be traced farther, but it may have influenced or coalesced with No. Xa.

Xa.—First noted in southern Texas on the 23d, p. m. Its motion was very rapid north-northeast, and it was last noted to the north of Lake Superior on the 25th, p. m. A widely extended cold wave followed in the wake of this storm and continued behind low area No. XII. The heaviest rainfall was 1.52 inch in twelve hours at Kansas City, which is in marked contrast to the precipitation accompanying low No. VIII, though the two storms had almost exactly the same trajectory.

XI.—First noted to the north of Montana on the 25th, a. m. This storm either filled up in South Dakota on the 26th, p. m., or was absorbed by No. XIII. Only traces or very light rains accompanied it.

XII.—A trough-like depression extending from the Gulf of Mexico to Lake Huron was left by area No. Xa. On 25th p. m., the map shows a slight concentration of this trough in Mississippi. Over 2.50 inches of rain in twenty-four hours fell at Meridian. This storm moved rather rapidly in a northeast direction and was last noted at the mouth of the St. Lawrence on the 27th, p. m. Abundant rainfall characterized the onward progress of this depression. The highest wind of the month, 72 miles, was reported from New York, N. Y., on the 27th, a. m. The same velocity was again reported on the 31st, a. m. A continuation of the cold wave accompanying No. Xa caused a fall of 36° in twenty-four hours at Parkersburg. This was the most widely extended and severest cold wave of the month in the eastern portion of the United States.

XIII.—This low was first noted to the north of Montana on the 26th, p. m. Its course was a little south of east, and it was last noted to the north of Lake Superior on the 29th, p. m. It was followed by a severe cold wave in the Missouri Valley and middle Slope, a fall of 34° in twenty-four hours and to 4° being reported at Cheyenne on the 28th, p. m., and one of 34° and to -2° at Moorhead on the 29th, a. m. A wind of 38 miles was felt at Marquette on the 28th, a. m., and at Duluth on the 29th, a. m. Almost no precipitation attended this low, though the pressure reached 29.00 near its center on the 27th, a. m.

XIV.—First noted in Colorado on the 28th, a. m., within a trough extending to and including No. XIII in Minnesota. Its course was southeast, reaching the Gulf of Mexico the next morning. Thence it moved northeast, reaching the mouth of the St. Lawrence on the 31st, p. m. The lowest pressure of the month, 28.84, was reported from Quebec on the 31st, a. m. Rather heavy rains attended this storm.

LOCAL STORMS.

By A. J. HENRY, Chief of Division of Records and Meteorological Data.

No local storms, properly so called, were reported during December; the numerous cases of high winds are given under that heading.

TEMPERATURE OF THE AIR.

[In degrees Fahrenheit.]

The mean temperature is given for each station in Table II, for voluntary observers. Both the mean temperatures and the departures from the normal are given in Table I for the regular stations of the Weather Bureau.

The monthly mean temperature published in Table I, for the regular stations of the Weather Bureau, is the simple mean of all the daily maxima and minima; for voluntary stations a variety of methods of computation is necessarily allowed, as shown by the notes appended to Table II.

The regular diurnal period in temperature is shown by the

hourly means given in Table IV for 29 stations selected out of 82 that maintain continuous thermograph records.

The distribution of the monthly mean temperature of the air over the United States and Canada is shown by the dotted isotherms on Chart II; the lines are drawn over the high irregular surface of the Rocky Mountain Plateau, although the temperatures have not been reduced to sea level, and the isotherms, therefore, relate to the average surface of the country occupied by our observers; such isotherms are controlled largely by the local topography, and should be drawn and studied in connection with a contour map.

The highest mean temperatures were: Key West, 67.8; Jupiter, 64.4; Tampa, 59.2; Port Eads, 58.4; Corpus Christi, 56.9. The lowest mean temperatures were: In Canada: Edmonton, 14.9; Battleford, 6.5; White River, 11.2; Winnipeg, 8.2; Minnedosa, 8.1; Qu'Appelle, 8.8. In the United States: St. Vincent, 10.2; Moorhead, 14.4; Williston, 16.0.

As compared with the normal for December, the mean temperatures for the current month were deficient throughout the Rocky Mountain Plateau Region, the Pacific Coast, and the South Atlantic and Gulf States, but were in excess throughout Canada, the Lake Region, the Middle States, and New England. The greatest excesses were: Pierre, 6.0; Minnedosa, 5.6; Medicine Hat, 5.4; Chatham, 5.3; Williston, 5.0. The greatest deficits were: Salt Lake City, 8.1; Santa Fe, 6.8; Winnemucca, 5.0; Pensacola, 4.3; Phoenix, 4.2; Lander, 4.0.

Considered by districts the mean temperatures for the current month show departures from the normal as given in Table I. The greatest positive departure was: North Dakota, 3.5. The greatest negative departures were: Middle Plateau, 4.7; Southern Plateau, 4.2.

The years of highest and lowest mean temperatures for December are shown in Table I of the REVIEW for December, 1894. The mean temperature for the current month was not the highest on record at any regular station of the Weather Bureau. It was the lowest on record at: Tampa, 59.2; Salt Lake City, 26.4; Fresno, 43.6; San Francisco, 48.6; Point Reyes Light, 48.0.

The maximum and minimum temperatures of the current month are given in Table I. The highest maxima were: 86, Los Angeles (frequently); 81, Jupiter (26th); 80, Jacksonville (2d), Tampa (1st), Key West (26th), Yuma (12th), San Luis Obispo (11th). The lowest maxima were: 38, St. Vincent (15th); 40, Dubuque (17th); 41, Idaho Falls (20th); 42, Minneapolis (17th); 43, Moorhead (28th); 44, Williston (27th). The highest minima were: 52, Key West (14th); 39, Jupiter (14th), San Francisco (30th), Point Reyes Light (frequently). The lowest minima were: -24, Havre (2d); -22, St. Vincent (26th); -18, Bismarck (2d); -17, Moorhead, (2d).

The years of highest maximum and lowest minimum temperatures are given in the last four columns of Table I of the current REVIEW. During the present month the maximum temperatures were the highest on record at: Northfield, 61; Nantucket, 59; Vineyard Haven, 62; Buffalo, 63; Fresno, 71; Carson City, 65; Roseburg, 66; Port Angeles, 64; Tatoosh Island, 60. The minimum temperatures were the lowest on record at: Columbia, 10; Fresno, 6; Eureka, 0.

The greatest daily range of temperature and the extreme monthly ranges are given for each of the regular Weather Bureau stations in Table I, which also gives data from which may be computed the extreme monthly ranges for each station. The largest values of the greatest daily ranges were: Carson City, 44; Lander and Pueblo, 43; Denver and El Paso, 42; Jacksonville, St. Vincent, Huron, Rapid City, and San Luis Obispo, 41. Among the extreme monthly ranges the largest values were: Havre, 84; Northfield, 74; Columbia, Mo., 69; Rapid City, 67; Bismarck, Huron, Pueblo, 66. The smallest values were: San Francisco, 21; Point Reyes